

Alfalfa Plant Population Data Collection UROP 2019

Katie R. Pagel



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- Data is from the first cutting of the first harvest
- Will be a base comparison to other cuttings
- Very preliminary



Population counts of alfalfa stands at St. Paul Campus

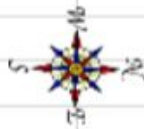


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APOP 19 - Population Trial

101	SW 5509	6	116	54VR10	18	117	54VR10	6	125	55VR08	48	312	54VR10	36	313	54VR10	6	328	SW 5509	6
102	55VR08	6	115	SW 5509	48	118	55VR08	18	126	SW 5509	12	311	54VR10	48	314	55VR08	6	327	55VR08	24
103	54VR10	12	114	SW 5509	24	119	55VR08	36	127	54VR10	72	310	SW 5511	72	315	54VR10	24	326	SW 5511	6
104	54VR10	36	113	SW 5509	36	120	SW 5511	12	128	SW 5511	48	309	55VR08	12	316	SW 5509	48	325	SW 5509	72
105	54VR10	24	112	SW 5511	72	121	SW 5511	18	301	54VR10	18	308	55VR08	36	317	54VR10	72	324	55VR08	18
106	55VR08	24	111	55VR08	12	122	SW 5511	24	302	SW 5511	48	307	SW 5509	12	318	SW 5511	12	323	SW 5511	18
107	54VR10	48	110	55VR08	72	123	SW 5509	72	303	54VR10	12	306	SW 5509	18	319	SW 5511	24	322	SW 5511	36
108	SW 5511	6	109	SW 5509	18	124	SW 5511	36	304	SW 5509	36	305	SW 5509	24	320	55VR08	72	321	55VR08	48
201	55VR08	72	216	SW 5511	24	217	SW 5509	48	225	55VR08	48	412	SW 5509	6	413	54VR10	18	428	SW 5509	18
202	55VR08	12	215	SW 5511	48	218	SW 5511	12	226	SW 5509	36	411	54VR10	72	414	SW 5511	72	427	SW 5511	6
203	54VR10	48	214	SW 5511	18	219	54VR10	6	227	54VR10	24	410	55VR08	72	415	55VR08	6	426	55VR08	18
204	SW 5511	6	213	55VR08	6	220	54VR10	36	228	55VR08	18	409	55VR08	48	416	SW 5509	36	425	SW 5509	72
205	SW 5511	36	212	SW 5511	72	221	SW 5509	6	401	SW 5509	48	408	55VR08	24	417	SW 5511	24	424	55VR08	36
206	54VR10	18	211	54VR10	72	222	55VR08	36	402	SW 5511	18	407	54VR10	36	418	SW 5511	48	423	54VR10	24
207	SW 5509	18	210	SW 5509	12	223	SW 5509	72	403	SW 5511	12	406	54VR10	48	419	54VR10	12	422	54VR10	6
208	55VR08	24	209	54VR10	12	224	SW 5509	24	404	SW 5511	36	405	SW 5509	12	420	SW 5509	24	421	55VR08	12











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The expected population counts based off of
seeding rates



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* Colors are the same for the same plan numbers of each plot						
	6 plants					
	12 plants					
	18 plants					
	24 plants					
	36 plants					
	48 plants					
	72 plants					



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First Harvest weights (lbs.)

7-8-19

- Only including wet weights as the drying process is still continuing
- Scale was calibrated in pounds, after weights were taken weights were converted to grams

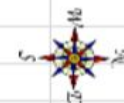


APOP 19 - Population Trial 2019

101	6.610	116	9.23	117	6.980	125	8.680	312	12.770	313	7.280	328	7.355
102	6.200	115	10.22	118	8.440	126	6.055	311	14.000	314	6.020	327	12.855
103	9.750	114	9.855	119	11.025	127	10.170	310	16.460	315	11.825	326	8.230
104	9.150	113	9.685	120	7.185	128	7.940	309	10.095	316	15.005	325	16.925
105	11.390	112	11.330	121	8.780	301	6.420	308	15.860	317	19.325	324	11.655
106	12.270	111	7.880	122	8.905	302	8.040	307	11.925	318	13.320	323	11.590
107	10.640	110	10.035	123	11.815	303	6.060	306	11.105	319	12.690	322	15.370
108	5.225	109	8.390	124	10.150	304	8.670	305	11.170	320	16.765	321	15.115
201	11.380	216	10.080	217	9.940	225	6.780	412	6.995	413	12.085	428	13.365
202	9.475	215	12.120	218	8.670	226	9.765	411	15.725	414	16.685	427	8.320
203	11.120	214	9.720	219	6.475	227	8.810	410	13.305	415	7.040	426	13.620
204	6.395	213	5.710	220	10.795	228	6.125	409	12.755	416	15.100	425	16.990
205	11.215	212	10.670	221	5.190	401	7.950	408	9.825	417	14.570	424	11.810
206	8.710	211	10.870	222	10.275	402	7.200	407	11.510	418	15.910	423	12.105
207	9.700	210	8.785	223	12.900	403	6.170	406	12.045	419	11.610	422	6.180
208	9.345	209	8.215	224	12.260	404	10.225	405	8.380	420	6.440	421	13.485

DM		
Sample	Wet (lb))	Dry (g)
1	1.300	
2	1.450	
3	1.425	
4	1.465	

lbs

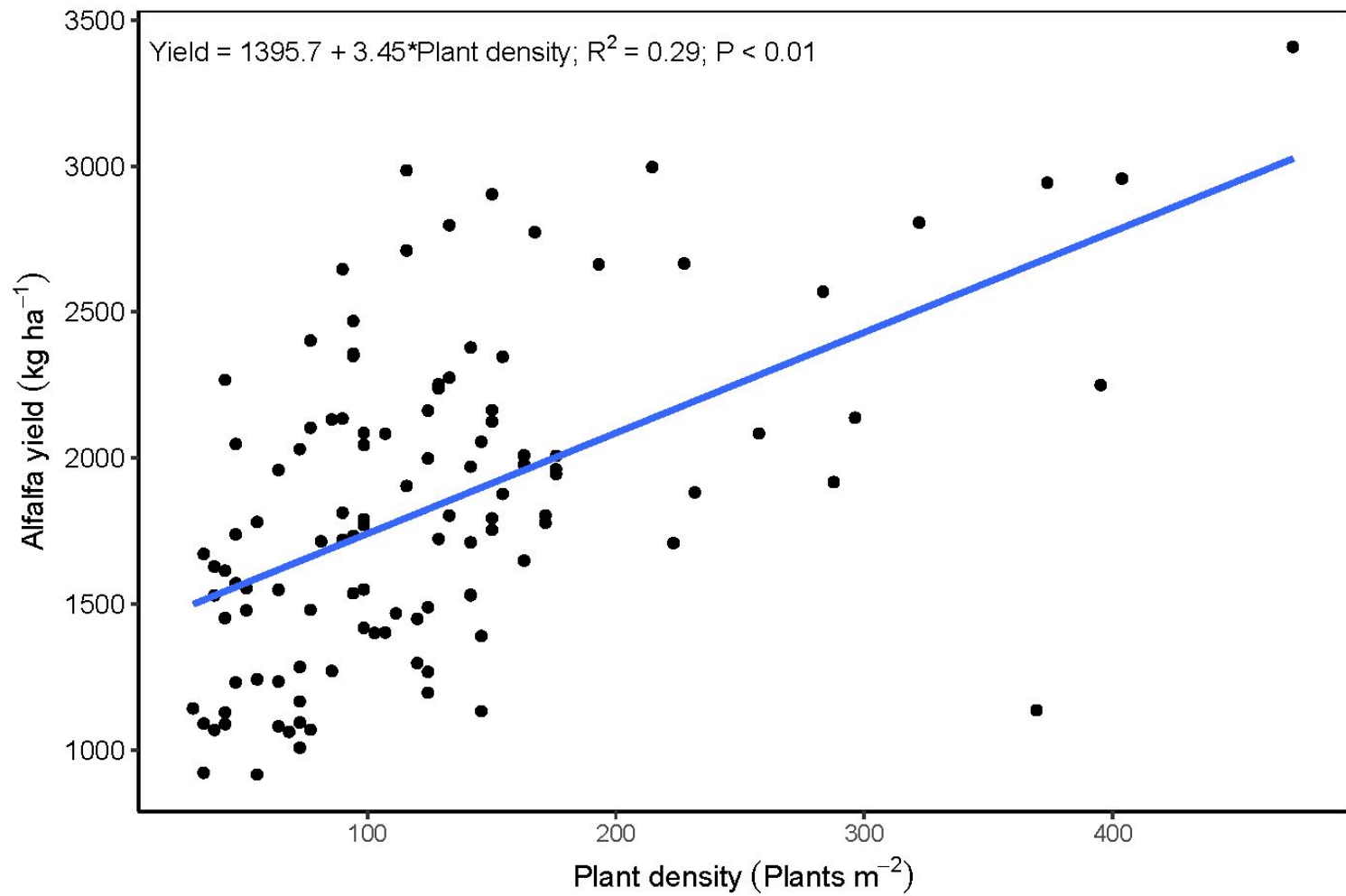


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Regression Line Analysis



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- Left plant: Taken from a dense area
- Right plant: Taken from a sparse area



Conclusion

- Plots with the lower seeding rates produced less plants per square foot. When seeding rates increase, more alfalfa plants were recorded
- Plants with lower seeding rates had wider crowns, more stems per crown, shorter shoots, and a greater number of leaves compared to the higher seeded rate plants.
- The more dense stands caused an environment where the alfalfa competed with neighboring plants for sunlight, resulting in plants with thinner crowns, less stems, taller shoots and fewer leaves